

REMARKS

Claims 50, 52-56, 63 and 65 are pending in this application. By the Office Action, claims 50, 52-56, 63 and 65 are rejected under 35 U.S.C. §112, and under §103(a). By this Amendment, claims 50 and 63 are amended. Support for the claim amendments can be found in the specification as filed, for example at page 20, line 27 to page 21, line 4. No new matter is added.

Applicants thank the Examiner for the indication that the previous rejections have been overcome and withdrawn.

I. Rejection Under §112

Claims 50, 52-56, 63 and 65 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. Without conceding the propriety of the rejection, by this Amendment claims 50 and 63 are amended to overcome the rejection. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

II. Rejection Under §103

Claims 50, 52-56, 63 and 65 are rejected under 35 U.S.C. §103(a) over Kobayashi. Applicants respectfully traverse this rejection.

Independent claim 50 is directed to a wettability changing layer comprising a wettability changing material, wherein: the layer has a thickness of 100 to 1,000 angstroms; the layer is capable of charge-injection and/or charge-transfer; and wettability of the layer changes when light energy is applied to the layer. Such a wettability changing layer is nowhere taught or suggested by Kobayashi.

According to the claimed invention, it was found that the wettability changing layer as claimed has charge injection and/or charge transfer properties, as well as the ability to form patterns different in wettability by pattern-wise light emission. In the claimed invention, the wettability changing layer exhibits the charge injection and/or charge transfer properties

independently of the variation of the wettability. As such, the wettability changing layer can be used as a component layer of, for example, an electroluminescent device. Furthermore, because the wettability changing layer has the ability to form patterns different in wettability by pattern-wise light emission, another component layer of, for example, an electroluminescent device, can be easily formed pattern-wise without using such complicated techniques as etching and the like.

According to the claimed invention, the wettability changing layer has a thickness of 100 to 1,000 angstroms. This dimension is important, because a thickness of 100 angstroms or more provides the above-described wettability properties, while a thickness of 1,000 angstroms or less provides the good charge transfer properties. See specification at page 12, lines 16-24.

In contrast to the claimed invention, Kobayashi discloses a photocatalyst-containing layer that is suitable for use in a structure for pattern formation, a color filter, a lens or a lithography plate. *See, generally*, columns 5 to 10. However, nowhere does Kobayashi teach or suggest that the disclosed photocatalyst-containing layer has a thickness of 100 to 1,000 angstroms. In fact, Kobayashi merely discloses that the photocatalyst-containing layer should have a thickness of not more than 10 μm . In response, the Office Action merely argues that Kobayashi's range of not more than 10 μm fully overlaps the claimed range of 100 to 1,000 angstroms, and that it would have been obvious for one of ordinary skill in the art to reduce the thickness of the layer. Applicants disagree.

First, the thickness range in Kobayashi is many orders of magnitude larger than the claimed range. That is, Kobayashi discloses a range of not more than 10 μm , which converts to a thickness of not more than 100,000 angstroms. Kobayashi thus provides a range that include thicknesses of less than 100 angstroms and thickness of from 1,000 to 100,000 angstroms, all of which are outside of the claimed range of 100 to 1,000 angstroms.

Furthermore, Kobayashi does not teach or suggest that the thickness should specifically be in the claimed range of 100 to 1,000 angstroms. Instead, in the Examples, Kobayashi teaches that the thinnest layer has a thickness of 0.2 μm , or 2,000 angstroms. This exemplary layer is thus two times as thick as the thickest layer encompassed by the present claims. Kobayashi does not teach or suggest that the layer could or should be made to have a much smaller thickness, as claimed.

Finally, Kobayashi does not teach or suggest that the thickness could or should be modified so as to provide the combination of (1) charge injection and/or charge transfer properties, and (2) the ability to form patterns different in wettability by pattern-wise light emission. Whereas the present specification teaches that the claimed range of 100 to 1,000 angstroms, provides both of these properties in combination Kobayashi nowhere teaches or suggests that both properties can be provided by specifically selecting the thickness of the layer. Kobayashi does not disclose the particular advantages of this narrower range discovered by the present inventors -- thicknesses of 100 angstroms or more to provide good wettability patterning characteristics, while thicknesses of 1000 angstroms or less provide good charge-injection and/or charge-transfer characteristics.


Accordingly, Kobayashi fails to teach or suggest each and every feature of claim 50. Claim 50 thus would not have been rendered obvious by Kobayashi. Claims 52-56, 63 and 65 depend from claim 50 and, thus, also would not have been rendered obvious by Kobayashi. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

III. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the application are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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